

Claims

1. A bottle, comprising:

a bottle body having a mouth, with an external thread  
formed around an external circumferential surface of the  
5 mouth;

an accommodation space for containing an additive  
therein and allowing contents influent from the mouth to be  
transferred thereto via a predetermined passage; and

a mixing means, removably combined with the bottle  
10 body, for discharging the contents passing through the  
accommodation space.

2. The bottle according to claim 1, wherein the  
mixing means comprises:

an adaptor removably combined with the mouth of the  
15 bottle body;

an additive container, defining the accommodation  
space, which is removably combined with the engagement at  
one side and is open at the other side;

a communication means for optionally communicating  
20 the accommodation space with the interior of the bottle  
body by means of rotation of the additive container;

a cover, provided with at least one discharging port  
through which the additive is discharged, for openably  
covering the additive container; and

a top cap for covering the discharging port.

3. The bottle according to claim 1, wherein the adaptor comprises an outer cap having an internal thread engaging with the external thread of the mouth, an inner cap, extending from an inside of the outer cap in an axial direction, which is inserted into the mouth by pressure and provided with a communication hole at the bottom, and a connection portion extending from the outer cap in an axial direction, with a locking groove formed around an inner circumferential surface thereof, and the additive container comprises a first protrusion which extends downwards and has a locking ring around an external circumferential surface thereof, said locking ring being combined with the connection portion, and a second protrusion which protrudes from the first protrusion in an axial direction, is inserted into the inner cap, and has a drain hole corresponding to the communication hole at the bottom.

4. The bottle according to claim 3, wherein the communication means is structured in such a manner that the second protrusion of the additive container is in surface contact with the inner cap of the adaptor and the communication hole and the drain hole, both arranged in the surface contact area, are coincident with or arranged crosswise with each in response to rotation of the additive

container.

5        5. The bottle according to claim 3, wherein the additive container is integrally provided with a guiding conduit which extends in an axial direction from the first protrusion and has a plurality of spraying holes formed therethrough.

10       6. The bottle according to claim 5, wherein the first protrusion has an internal thread formed around the inner circumferential surface thereof and the guiding conduit has a plurality of spraying holes formed therethrough and is provided on an external surface of its open terminal portion with an external thread that engages with the  
15       internal thread, .

7. The bottle according to claim 1, wherein the mixing means comprises:

20       an adaptor, including: an engagement portion which can be removably combined with the mouth of the bottle body, a cylindrical support which extends from the engagement portion at a predetermined angle in both externally radial and axial directions, with a locking ring formed around the external circumferential surface thereof:  
25       a lower blocking panel which blocks the flow of contents in the axial direction: and a lower shutter ring having a

communication hole, integrally provided at the center of the lower blocking panel,

a cylindrical additive container, removably combined with the adaptor by locking the locking ring with a locking groove formed around an internal circumferential surface of the cylindrical additive container, including an accommodation space which is open at one end to contain one or more additives therein, an upper blocking space which is integrally formed, defining the accommodation space 302 in a transverse direction, and an upper shutter ring which has a drain hole and is integrally formed at the center of the upper blocking panel,

a cover, provided with at least one discharging port through which the additive is discharged, for openably covering the additive container, and

a top cap for covering the discharging port.

8. The bottle according to claim 7, wherein the lower blocking panel of the adaptor runs upwards at an angle to the center while the upper blocking panel of the additive container runs downwards at an angle to the center.

9. The bottle according to claim 7, wherein the lower blocking panel of the adaptor runs upwards at an angle to the center while the upper blocking panel of the additive container runs downwards at an angle to the center.

10. The bottle according to one of claims 7 to 10,  
wherein the lower shutter ring is in a cylindrical form  
extending downward from the lower blocking panel, and has  
communication holes at the bottom and lateral sides  
5 thereof, and the upper shutter ring is in a cylindrical  
form extending upwards and has drain holes corresponding to  
the communication hole at opposite ends and lateral sides  
thereof.

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11. The bottle according to claim 10, wherein an  
extension part to be inserted into the upper shutter ring  
is provided atop the lower shutter ring.

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12. The bottle according to one of claims 7 to 10,  
wherein the lower blocking panel protrudes upwards from its  
central portion to form a hemispheric lower shutter ring  
having two or more communication holes which are formed at  
equal intervals around the axis, and the upper blocking  
20 panel protrudes upwards from a central portion thereof to  
form a hemispheric upper shutter ring which is in surface  
contact with the lower shutter ring and has two or more  
drain holes which correspond to the communication holes at  
equal intervals around the axis.

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13. The bottle according to claim 1, wherein the

mixing means comprises:

an additive container, including an engaging part  
removably combined with the mouth of the bottle body, a  
cylindrical support extending outward in a radial direction  
5 from the engaging part and in an axial direction, and a  
blocking panel acting as a bottom septum for the  
accommodation space and having a communication hole at the  
center,

a cover, provided with at least one discharging port  
10 through which the additive is discharged, for openably  
covering the additive container; and

a top cap for covering the discharging port.

14. The bottle according to claim 13, wherein an  
15 inner cap is formed inside the engagement and is inserted  
into the mouth by pressing, with a plurality of  
communication holes formed at the end thereof.

15. The bottle according to claim 14, wherein the  
20 mixing means comprises:

an adaptor, including: an engagement portion which  
can be removably combined with the mouth of the bottle  
body, a cylindrical support which extends from the  
engagement portion at a predetermined angle in both an  
25 externally radial and an axial direction, with a locking  
ring formed around the external circumferential surface

thereof: and a lower blocking panel which blocks the flow of the contents in an axial direction and has two or more communication holes formed at equal intervals around the axis,

5           a cylindrical additive container, removably combined with the adaptor by locking the locking ring with a locking groove formed around an internal circumferential surface of the cylindrical additive container, including an accommodation space which is open at one end to contain one  
10 or more additives therein: and an upper blocking space which is integrally formed, defining the accommodation space in a transverse direction, and has two or more drain holes, formed at equal intervals around the axis, corresponding to the communication holes,

15           a cover, provided with at least one discharging port through which the additive is discharged, for openably covering the additive container, and

          a top cap for covering the discharging port.

20           16. The bottle according to claim 15, wherein the communication holes and the drain holes each have a fan shape so that they are aligned with or across from each other in response to the rotation of the additive container around the adaptor.

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          17. The bottle according to claim 16, wherein at

least one of the communication holes includes a stop flange which protrudes upwards to be inserted into the drain holes.

5           18. The bottle according to claim 16, wherein at least one of the drain holes includes a stop flange which protrudes downwards to be inserted into the communication holes.

10           19. The bottle according to claim 1, wherein the mixing means comprises an additive container having an accommodation space to contain an additive therein, a connecting means, formed at one side of the additive container, for combining the additive container with the  
15           mouth therethrough, and an outwardly protruding discharging port formed on the additive container at a position opposite the connecting means.

20           20. The bottle according to claim 19, wherein the additive container has an eggshell shape.

21. The bottle according to claim 19, wherein the additive container has a spiral soft ice cream shape.

25           22. The bottle according to claim 18, wherein the mixing means comprises an additive container including an



accommodation space, a connecting means, formed at one side  
of the additive container, an inner container  
compartmentalizing the accommodation space into a first  
space and a second space which communicate with each other,  
5 and a cover for covering the second space, with a  
discharging port formed thereon.

23. The bottle according to claim 22, wherein the  
inner container is comprised of a connecting portion  
10 extending inward in a radial direction from an open end, a  
vertical wall portion extending in an axial direction from  
the connecting portion, and a closing portion defining a  
bottom, the connecting portion having a plurality of  
communication holes through which the first space  
15 communicates with the second space.

24. The bottle according to claim 23, wherein the  
inner container is formed separately from the additive  
container.

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25. The bottle according to claim 24, wherein the  
inner container includes a plurality of vertical piece  
couples, each couple having a fitting gap therebetween, on  
the external side walls thereof, and is tightly fitted into  
25 the additive container, which includes a plurality of  
fixing ribs to be inserted into the fitting gap on the

inner side walls thereof.

26. The bottle according to claim 25, wherein each of the vertical pieces is provided with a locking protrusion which is locked to a locking groove formed on each side of the fixing rib, so that when combined with the additive container, the inner container is restricted from moving in the axial direction.

27. The bottle according to claim 23, wherein the inner container has a plurality of communication holes in the bottom.

28. The bottle according to claim 27, wherein the position of the communication holes in the bottom of the inner container is out of the area corresponding to the first space.

29. The bottle according to claim 22, wherein the discharging port is closed or opened with a top cap.

30. The bottle according to claim 29, wherein the top cap is held on the cover or the additive container by a connection cord which is directly connected to the top cap at one end and to the cover or the additive container at the other end.

31. The bottle according to claim 29, wherein the top cap has a pressure hole.

5           32. The bottle according to claim 22, wherein a plurality of concentric ring-type protrusions is provided around the axis on the inner surface of the cover.

33. The bottle according to claim 22, wherein the  
10 mixing means further comprises a light emitting means which operates in the presence of electric power.

34. The bottle according to claim 33, wherein the light emitting means is embedded in a ring-type protrusion  
15 formed around the external circumferential surface of the additive container.

35. The bottle according to claim 22, wherein a seating groove is formed around the external  
20 circumferential surface of the open end of the additive container, with a ring-type locking protrusion formed at the end thereof, and a fixing ring tightly fitted to the seating groove is integrated through a support piece to the lower end of the cover, said fixing ring including a  
25 stopper which protrudes outwards in the radial direction on one side, the cover including a locking piece having a

locking hole into which the stopper is inserted, formed integrally at the lower end thereof.

36. The bottle according to claim 35, wherein a  
5 locking protrusion is formed along an edge of the seating groove and engages with a locking protrusion of the cover, and a sleeve integrally and axially extends in the cover at a predetermined position spaced inward apart from the end of the cover.

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37. The bottle according to one of claims 19 to 36, wherein the adaptor or the connecting means includes an outer cap which has an internal thread that engages with the external thread, and an inner cap which extends in the  
15 axial direction inside the outer cap, defining an inlet which communicates with the interior of the bottle body, and is tightly fitted into the mouth.

38. The bottle according to claim 37, wherein the  
20 inlet includes an anti-backflow valve functioning to prevent the additive in the additive container from flowing downwards into the bottle body.

39. The bottle according to claim 38, wherein the  
25 anti-backflow valve allows the contents of the bottle body to flow into the additive container but prevents the

reverse progress.

40. The bottle according to claim 39, wherein the anti-backflow valve includes a valve body which extends  
5 from the inlet toward the accommodation space in the axial direction, said valve body having a closed end and a holed side wall in which a valve hole is formed, a valvule positioned within the valve body to move in the axial direction so as to open or close the valve hole, and a  
10 protrusion ring, formed around the inner circumferential surface of the inlet, preventing the valvule from being separated from the valve body.

41. The bottle according to claim 38, wherein the  
15 anti-backflow means includes an interceptive wall which protrudes toward the first space from the inlet.

42. The bottle according to claim 1, wherein the bottle comprises a wide-mouth cup body onto which the  
20 mixing means is tightly fitted.

43. The bottle according to claim 42, wherein the mixing means includes,

an additive container whose low end is tightened to  
25 the open end of the cup body through a screw-type engagement, an inner container which, together with the

cover, defines the accommodation space communicating with the interior of the cup body, and a cover having a discharging port therein which is mounted onto the additive container, opening or closing the accommodation space.

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44. The bottle according to claim 43, wherein the inner container comprises a connecting portion extending inward in the radial direction from an open end, a vertical wall portion extending in the axial direction from the connecting portion, and a closing portion defining a bottom, said connecting portion including a plurality of communication holes to communicate the first space with the second space.

15 45. The bottle according to claim 44, where the discharging port is provided with a top cap.

20 46. The bottle according to claim 45, wherein the top cap is held on the cover or the additive container by a connection cord which is directly connected to the top cap 500 at one end and to a lower end of the cover or the additive container at the other end.